

**What is claimed is:**

1. A method of manufacturing a semiconductor laser chip comprising:

providing a semiconductor substrate including an  
5 active layer and a block layer;

forming an electrode line pattern and a marker on the semiconductor substrate;

etching the semiconductor substrate to form a W channel;

10 forming an oxide layer on the semiconductor substrate to cover the electrode line pattern and the marker;

removing a part of the oxide layer to form an electrode contact that exposes the electrode line  
15 pattern;

forming a mounting electrode on the electrode line pattern; and

dividing the semiconductor substrate into a plurality of semiconductor laser chip.

20 2. A method of manufacturing a semiconductor laser chip according to claim 1, wherein the electrode line pattern is formed at a junction side of the semiconductor substrate.

3. A method of manufacturing a semiconductor laser  
25 chip according to claim 1, wherein the semiconductor substrate is an InP substrate.

4. A method of manufacturing a semiconductor laser chip according to claim 1, further comprising performing a sintering so as to ensure an ohmic contact between the electrode line pattern and the semiconductor substrate.

5 5. A method of manufacturing a semiconductor laser chip according to claim 1, wherein the electrode line pattern and the marker are formed of AuZu.

6. A method of manufacturing a semiconductor laser chip according to claim 1, further comprising etching the  
10 oxide layer at a portion that is a peripheral region of the semiconductor laser chip.

7. A method of manufacturing a semiconductor laser chip according to claim 1, further comprising coating an end surface of the semiconductor laser chip.

15 8. A method of manufacturing a semiconductor laser chip comprising:

providing a semiconductor substrate including an active layer and a block layer;

forming an electrode line pattern on the  
20 semiconductor substrate;

etching the semiconductor substrate to form a W channel;

forming an oxide layer on the semiconductor substrate;

25 removing a part of the oxide layer to form an electrode contact that exposes the electrode line pattern and a marker that exposes the semiconductor substrate;

forming a mounting electrode on the electrode line pattern; and

dividing the semiconductor substrate into a plurality of semiconductor laser chip.

5           9. A method of manufacturing a semiconductor laser chip according to claim 8, wherein the electrode line pattern is formed at a junction side of the semiconductor substrate.

10           10. A method of manufacturing a semiconductor laser chip according to claim 8, wherein the semiconductor substrate is an InP substrate.

15           11. A method of manufacturing a semiconductor laser chip according to claim 8, further comprising performing a sintering so as to ensure an ohmic contact between the electrode line pattern and the semiconductor substrate.

12. A method of manufacturing a semiconductor laser chip according to claim 8, wherein the electrode line pattern is formed of AuZu.

20           13. A method of manufacturing a semiconductor laser chip according to claim 8, further comprising etching the oxide layer at a portion that is a peripheral region of the semiconductor laser chip.

25           14. A method of manufacturing a semiconductor laser chip according to claim 8, further comprising coating an end surface of the semiconductor laser chip.

15. A method of manufacturing a semiconductor laser chip having a marker for detecting a position of the chip, the method comprising:

providing a semiconductor substrate including an  
5 active layer and a block layer;

forming an electrode line pattern and a marker on the semiconductor substrate;

forming an oxide layer on the semiconductor substrate so as to cover the electrode line pattern and  
10 the marker;

removing a part of the oxide layer to form an electrode contact that exposes the electrode line pattern;

forming a mounting electrode on the electrode line  
15 pattern; and

dividing the semiconductor substrate into a plurality of semiconductor laser chip. .

16. A method of manufacturing a semiconductor laser chip according to claim 15, wherein the  
20 semiconductor substrate is an InP substrate.

17. A method of manufacturing a semiconductor laser chip according to claim 15, further comprising performing a sintering so as to ensure an ohmic contact between the electrode line pattern and the semiconductor  
25 substrate.

18. A method of manufacturing a semiconductor laser chip according to claim 15, wherein the electrode line pattern and the marker are formed of AuZu.

19. A method of manufacturing a semiconductor  
5 laser chip according to claim 15, wherein the semiconductor laser chip includes a plurality of markers.

20. A method of manufacturing a semiconductor laser chip according to claim 15, wherein the marker has a substantial round shape.

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